

Title (en)  
VARIABLE RAKE FATIGUE ENHANCING ORBITAL DRILLING CUTTER

Title (de)  
VARIABLE SPANWINKELERMÜDUNG ZUR VERBESSERUNG EINES RUNDBOHRSCHEIDERS

Title (fr)  
FATIGUE PAR ANGLE DE COUPE VARIABLE DE RENFORCEMENT DE FRAISE DE COUPE ORBITALE

Publication  
**EP 3189918 A1 20170712 (EN)**

Application  
**EP 16195775 A 20161026**

Priority  
US 201614987839 A 20160105

Abstract (en)  
A cutting tool (110) for forming a hole by means of orbital drilling is provided. The cutting tool includes a body (112) having a first portion (118), which has a first diameter and a first radial rake angle (124: Fig. 2), and a second portion (120) adjacent the first portion (118), the second portion (120) having a second diameter and a second radial rake angle (126: Fig. 3). The second diameter is different from the first diameter and the second radial rake angle (128) is different from than the first radial rake angle (124). In preferred embodiments the second diameter is larger than the first diameter and the first radial rake angle (124) is positive, whilst the second radial rake angle (128) is negative, such that residual stresses may be imparted to the wall of the orbitally drilled hole. A system (110: Fig. 7) for, and a method (300: Fig. 9) of, orbitally drilling a hole are also provided, wherein the system includes the cutting tool (110).

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CPC (source: EP US)  
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